Improvements for EBA (Environmental Benefits Analysis)

"White Paper" Mar 2001

TRACK 1 – Improve Current Procedure

- Analytical Protocol for NED/NER analysis
- Link evaluation to broader range of ecological models

TRACK 2 – Next Generation

- Develop NER/EQ account to reflect "goods and services" approach
- Expand ecological models to include process (simulation) models
- Initiate interagency dialogue

Near Term Protocols

	Small Studies/Projects	Large Studies/Projects
Single Purpose	*e.g.*, CAP 1135, 206,204	*e.g.*, 1103, Ohio River, CWPPRA
	•Ecological analytical methods (e.g., HEP, IBI) •Economic framework •Cost allocation •Cost sharing	•Ecological analytical methods (e.g., IBI ,HEP, HGM) •Economic framework •Cost allocation •Cost sharing
Multipurpose	*e.g.*, Challenge 21 (Sec 212)	Everglades, Louisiana 2050, Lake Ontario/St Lawrence
	•Ecological analytical methods (e.g., HGH, HEP) •Economic framework •Cost allocation •Cost sharing	•Ecological analytical methods (e.g., IBI ,HEP, HGM) •Economic framework •Cost allocation •Cost sharing

US Army Corps of Engineers

IWR INSTITUTE FOR WATER RESOURCES

“Next Generation”

- EBA Report
- Develop NER/EQ Accounting Framework for “environmental goods and services”
- Improve Ecological evaluation methods, especially process simulation models (for larger projects)
- Corps Economic & Environmental Wkshop
- Interagency Workshops

US Army Corps of Engineers

IWR INSTITUTE FOR WATER RESOURCES

Precursors to EBA

- Policy Study: “New Directions for Corps Environmental Activities” (1993)
- Policy Study: “Incremental Cost Analysis” (1995)
- Policy Study: “Civil Works Environmental Action Plan” (1995)
- Policy Study: “Sustainable Development Concepts” (1998)
- NRC Report on Corps Planning (1999)
- Policy Study: “Implementation Steps for SD (’02)

US Army Corps of Engineers

IWR INSTITUTE FOR WATER RESOURCES

Context for Decisionmaking

US Army Corps of Engineers

IWR INSTITUTE FOR WATER RESOURCES

PLANNING
(Multiobjective River Corridor Management

Protection
(Regulatory Program)

- SAMPS
- ADIDS
- General Permits
- Nationwide Permits
- No Net Loss of Wetlands
- Wetlands Mitigation
- Banking

Development
(GI Program)

- Flood Damage Reduction
- Water Supply
- Navigation Channels, Dredging
- Reservoir Reallocation
- Ecosystem Management

Management
(O&M Program)

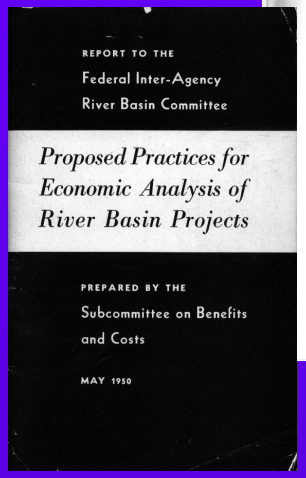
- Environmental Restoration
- Dredging Material Disposal
- Drought Contingency Planning
- Dam Safety
- Lock and Dam Rehabilitation
- Reservoir Systems Optimization

US Army Corps of Engineers

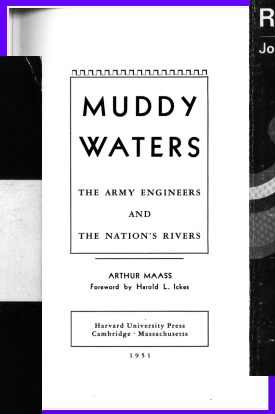
IWR INSTITUTE FOR WATER RESOURCES

Existing Planning/Evaluation Paradigms

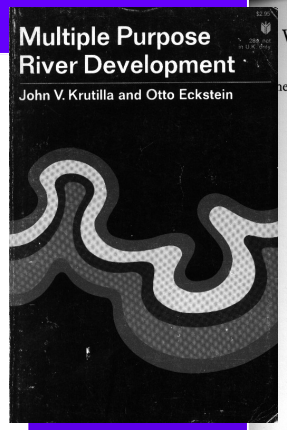
- **Descriptive** (NOAA/CZM, McHarg, GIS)
- **Indicative** (normative, P&S/P&G, BCA)
- **Prescriptive** (regulatory “planning”)
- **Proscriptive** (to avoid, NEPA/EIS)
- **ERSATZ** (“Ecorestoration sitting around the table *Zeitgeist”)* (see EPA Watershed guide)
- “**Garbage Can” Planning** (see Ersatz)



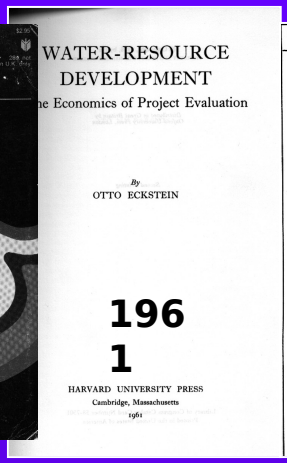
1950



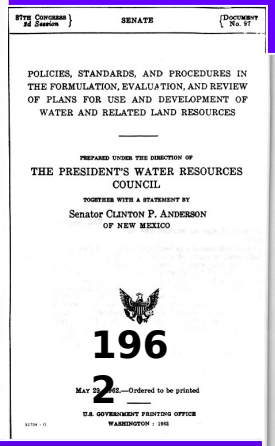
1951



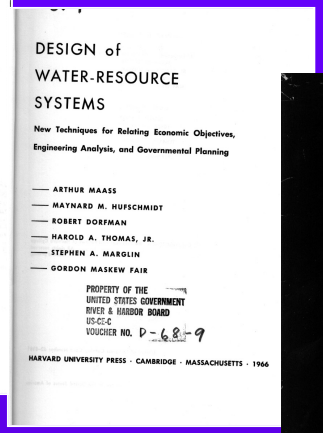
1958

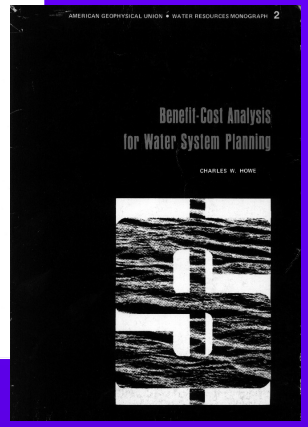


1961



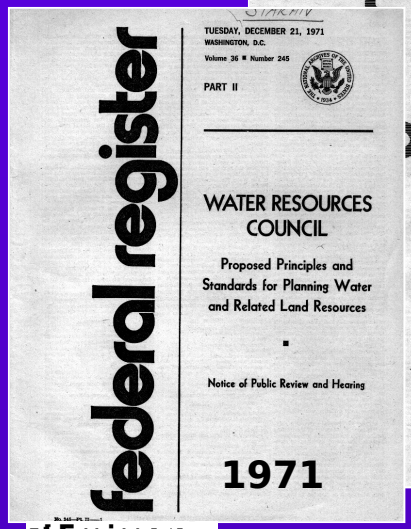
1962



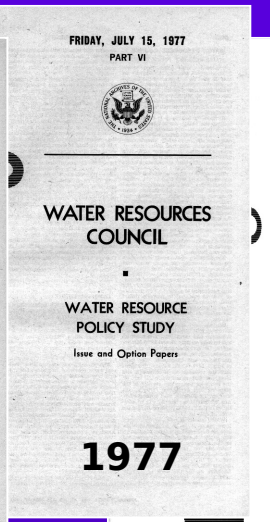

AMERICAN GEOPHYSICAL UNION • WATER RESOURCES MONOGRAPH 2
Benefit-Cost Analysis
for Water System Planning
CHARLES W. HOWE

1971

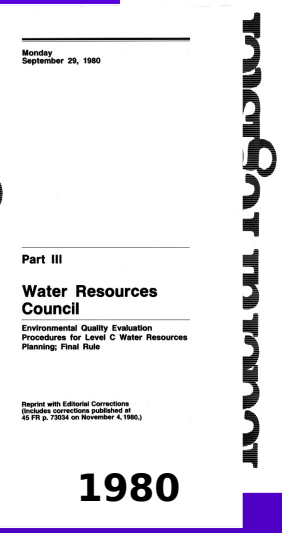
EVOLUTION OF FEDERAL WATER RESOURCES PLANNING GUIDELINES

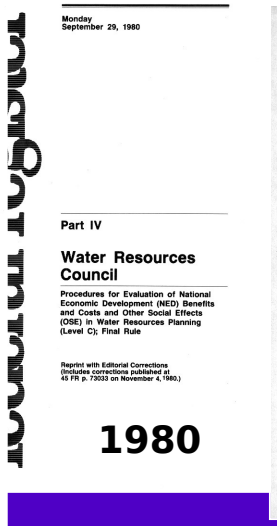


1971

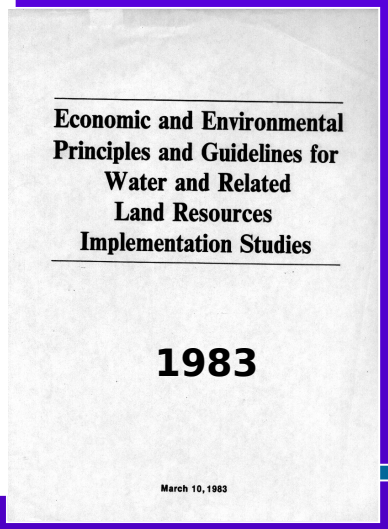


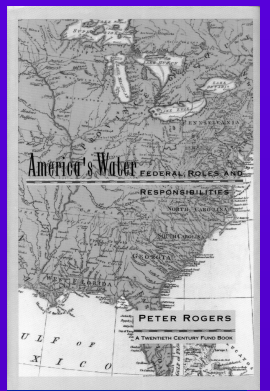
1977





1980

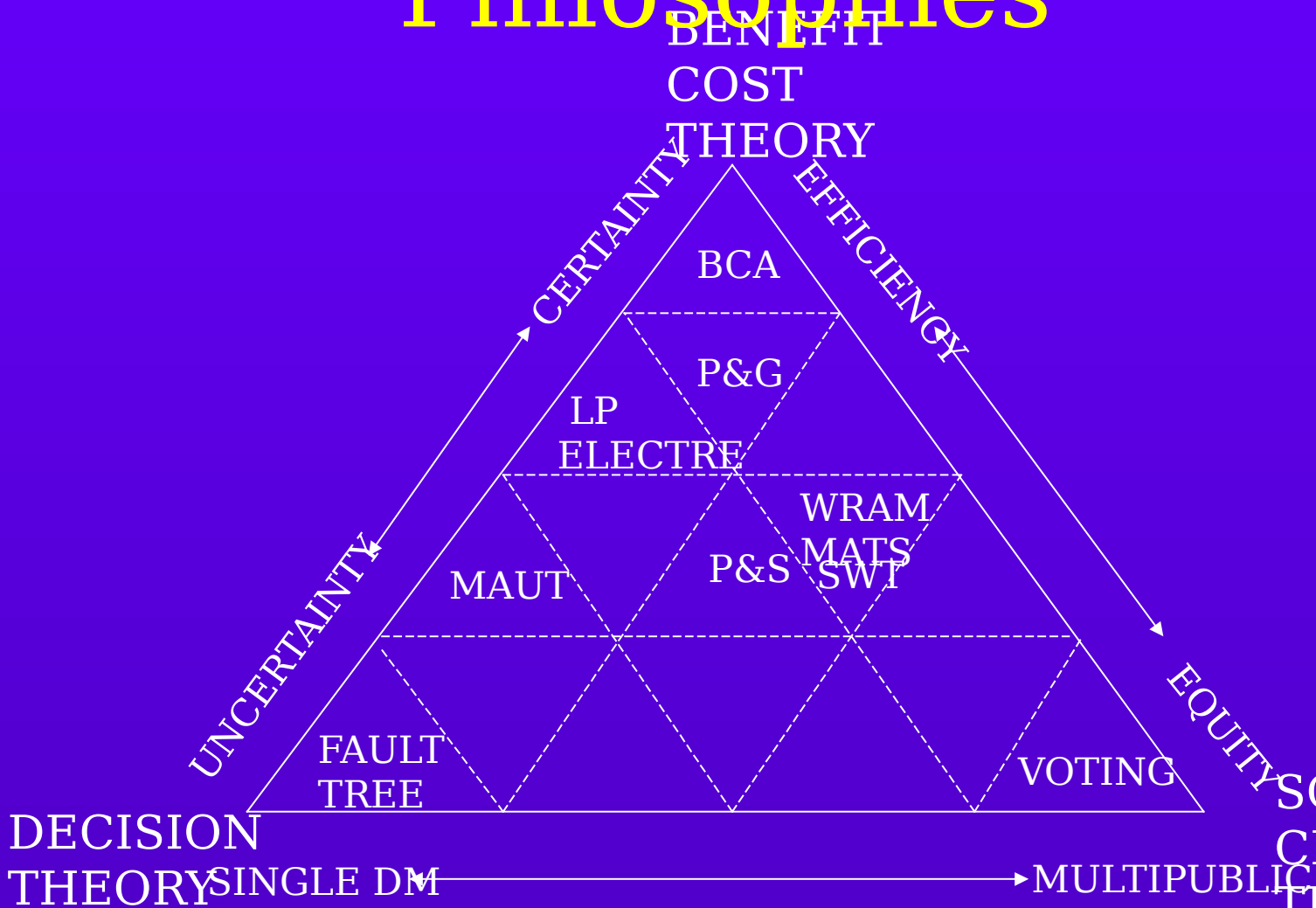




of Engineers

IWR
INSTITUTE FOR
WATER RESOURCES

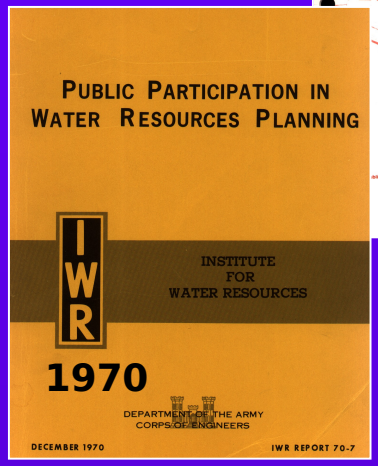
Normative Evaluation Philosophies

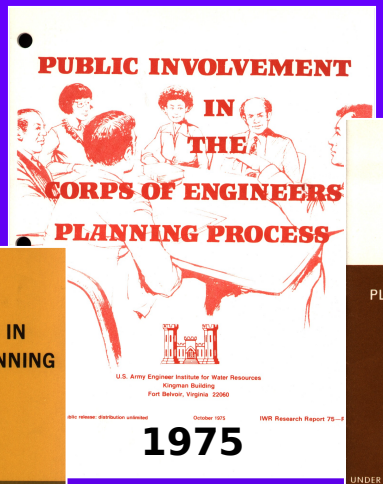


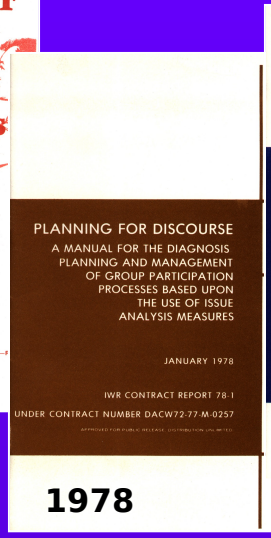
US Army Corps of Engineers

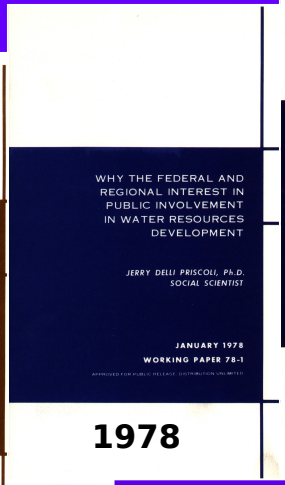
IWR INSTITUTE FOR WATER RESOURCES

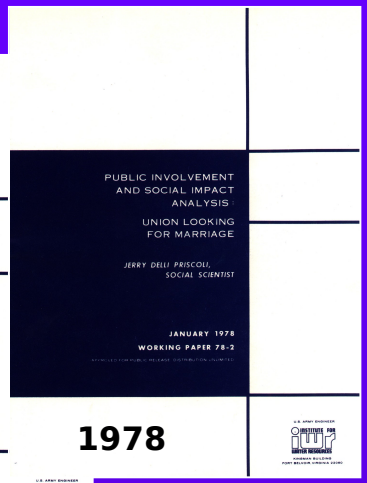
EVOLUTION OF PUBLIC PARTICIPATION/ADR IN THE CORPS PLANNING PROCESS

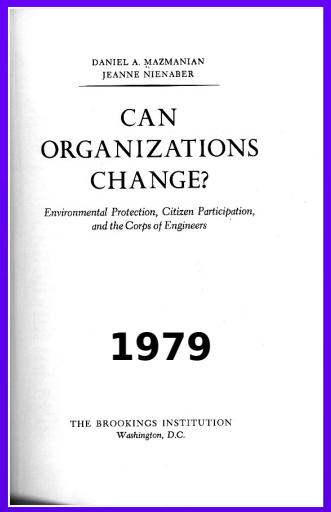


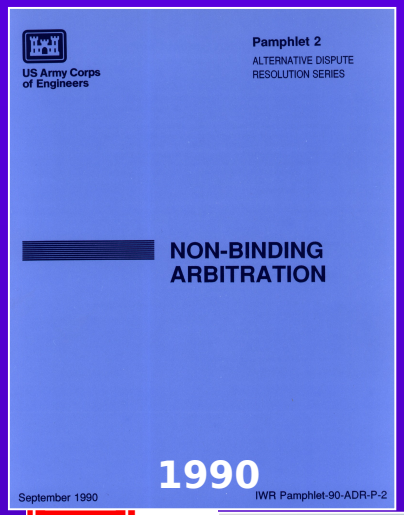

PUBLIC INVOLVEMENT IN THE CORPS OF ENGINEERS PLANNING PROCESS
U.S. Army Engineer Institute for Water Resources
Kingman Building
Fort Belvoir, Virginia 22060
1975

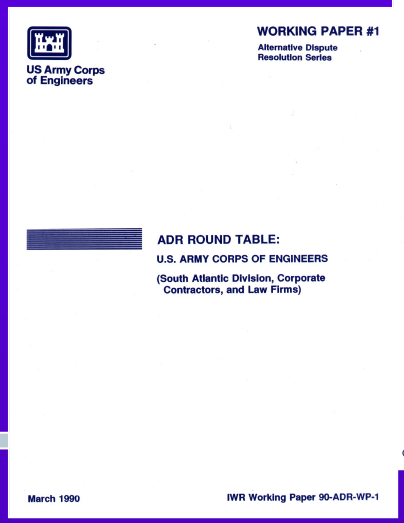

PLANNING FOR DISCOURSE
A MANUAL FOR THE DIAGNOSIS PLANNING AND MANAGEMENT OF GROUP PARTICIPATION PROCESSES BASED UPON THE USE OF ISSUE ANALYSIS MEASURES
JANUARY 1978
IWR CONTRACT REPORT 78-1
UNDER CONTRACT NUMBER DACW72-77-M-0257
1978

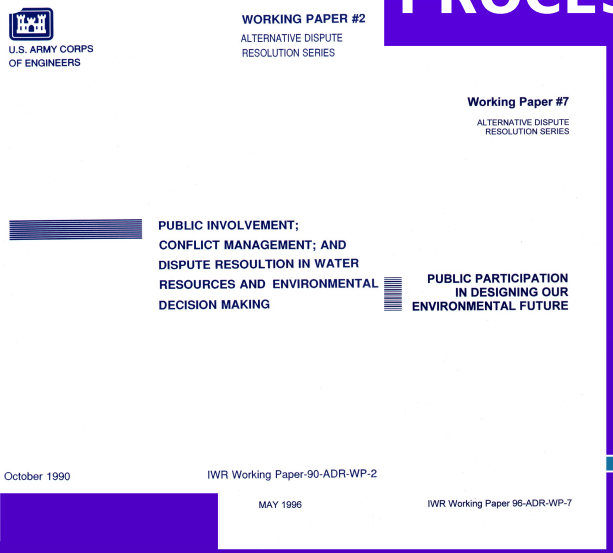

WHY THE FEDERAL AND REGIONAL INTEREST IN PUBLIC INVOLVEMENT IN WATER RESOURCES DEVELOPMENT
JERRY DELLI PRISCOLI, Ph.D.
SOCIAL SCIENTIST
JANUARY 1978
WORKING PAPER 78-1
1978

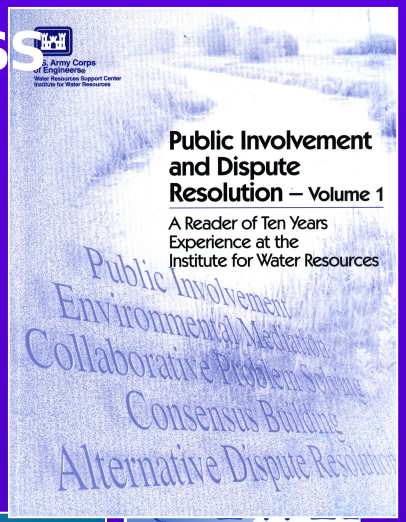






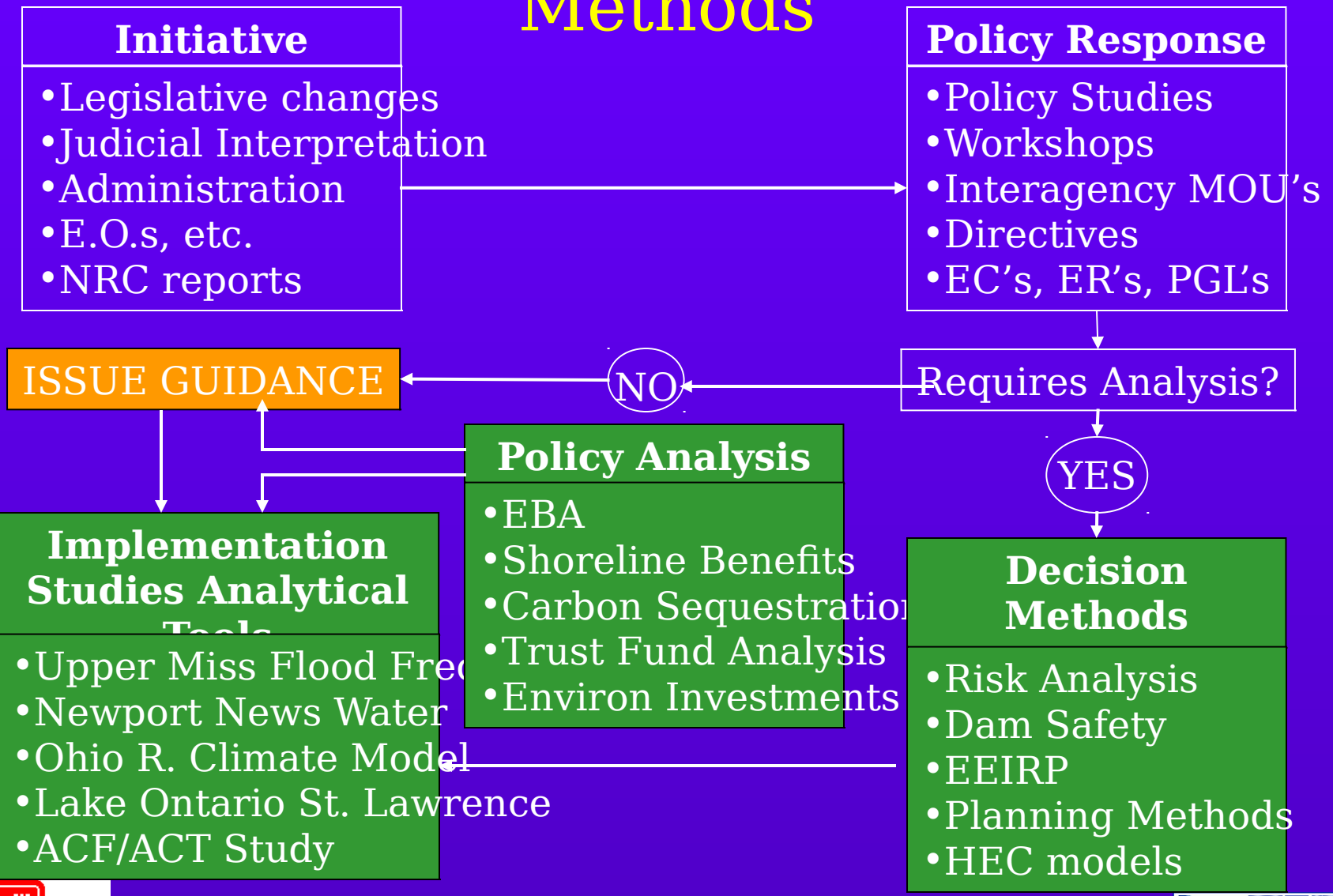

US Army Corps of Engineers
WORKING PAPER #1
Alternative Dispute Resolution Series
ADR ROUND TABLE:
U.S. ARMY CORPS OF ENGINEERS
(South Atlantic Division, Corporate Contractors, and Law Firms)
March 1990
IWR Working Paper 90-ADR-WP-1


U.S. ARMY CORPS OF ENGINEERS
WORKING PAPER #2
ALTERNATIVE DISPUTE RESOLUTION SERIES
Working Paper #7
ALTERNATIVE DISPUTE RESOLUTION SERIES
PUBLIC INVOLVEMENT; CONFLICT MANAGEMENT; AND DISPUTE RESOULTION IN WATER RESOURCES AND ENVIRONMENTAL DECISION MAKING
PUBLIC PARTICIPATION IN DESIGNING OUR ENVIRONMENTAL FUTURE
October 1990
IWR Working Paper-90-ADR-WP-2
MAY 1996
IWR Working Paper 96-ADR-WP-7
1996


Public Involvement and Dispute Resolution – Volume 1
A Reader of Ten Years Experience at the Institute for Water Resources
Public Involvement
Environmental Mediation
Collaborative Problem Solving
Consensus Building
Alternative Dispute Resolution
INSTITUTE FOR WATER RESOURCES
1998

US Army Corps of Engineers

Process for Developing Analytical Methods



US Army Corps of Engineers

IWR INSTITUTE FOR WATER RESOURCES

IWR National Studies

- National Hydropower Study (1978-82)
- National Waterways Study (1979-83)
- National Drought Study (1991-95)
- Nat. Wetlands Mitigation Banking (93-96)
- Federal Infrastructure Strategy (93-96)
- Nat. Shoreline Study (2002-2007)

US Army Corps of Engineers

IWR INSTITUTE FOR WATER RESOURCES

National Drought Study
(1992-96)

- Report to Congress 1995
- National Drought Atlas (use L-moments)
- Shared Vision Planning applied to 5 areas
- IWR-MAIN water demand forecasting
- 20 technical reports
- Analysis of California Drought Impacts

US Army Corps of Engineers

IWR INSTITUTE FOR WATER RESOURCES

Multiobjective Planning/
Harvard Water Program
1962/P&S/P&G/ -
Updated IWR 1994

Adaptive Environmental
Management
C.S."Buz" Hollings
1978

Shared Vision Model
Richard N. Palmer 1981,
1992

The Shared Vision Model

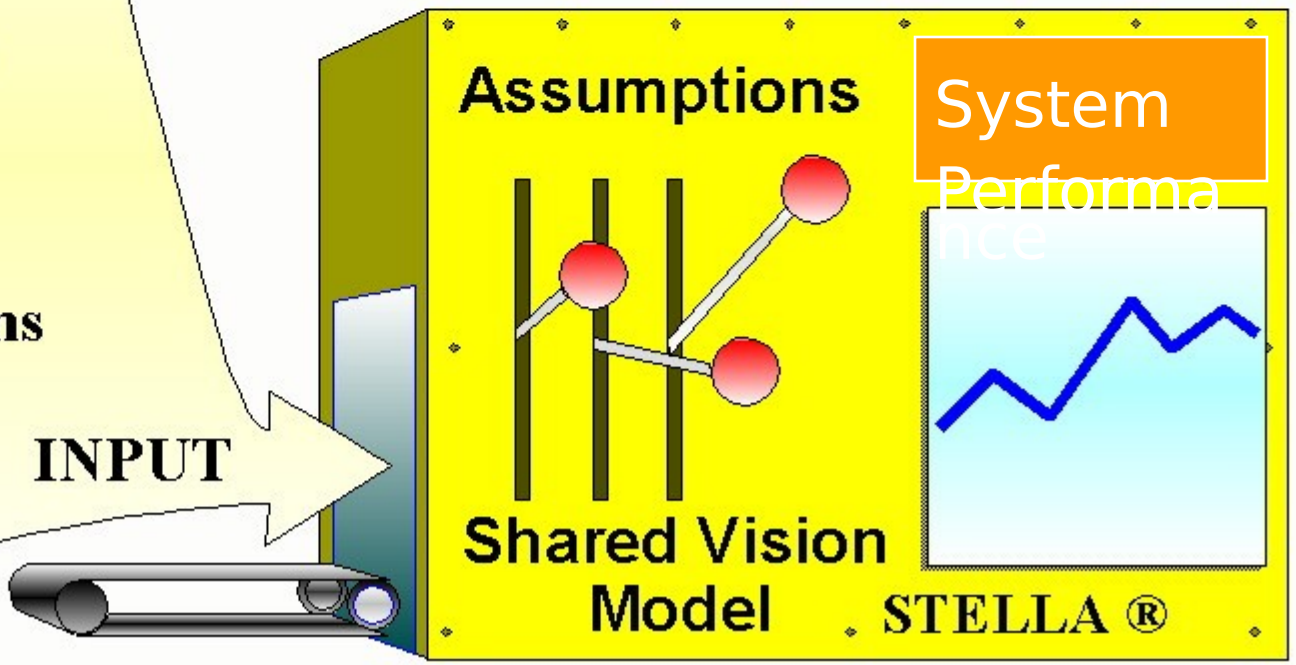
Stakeholder
Value Judgements

Demand Forecasts

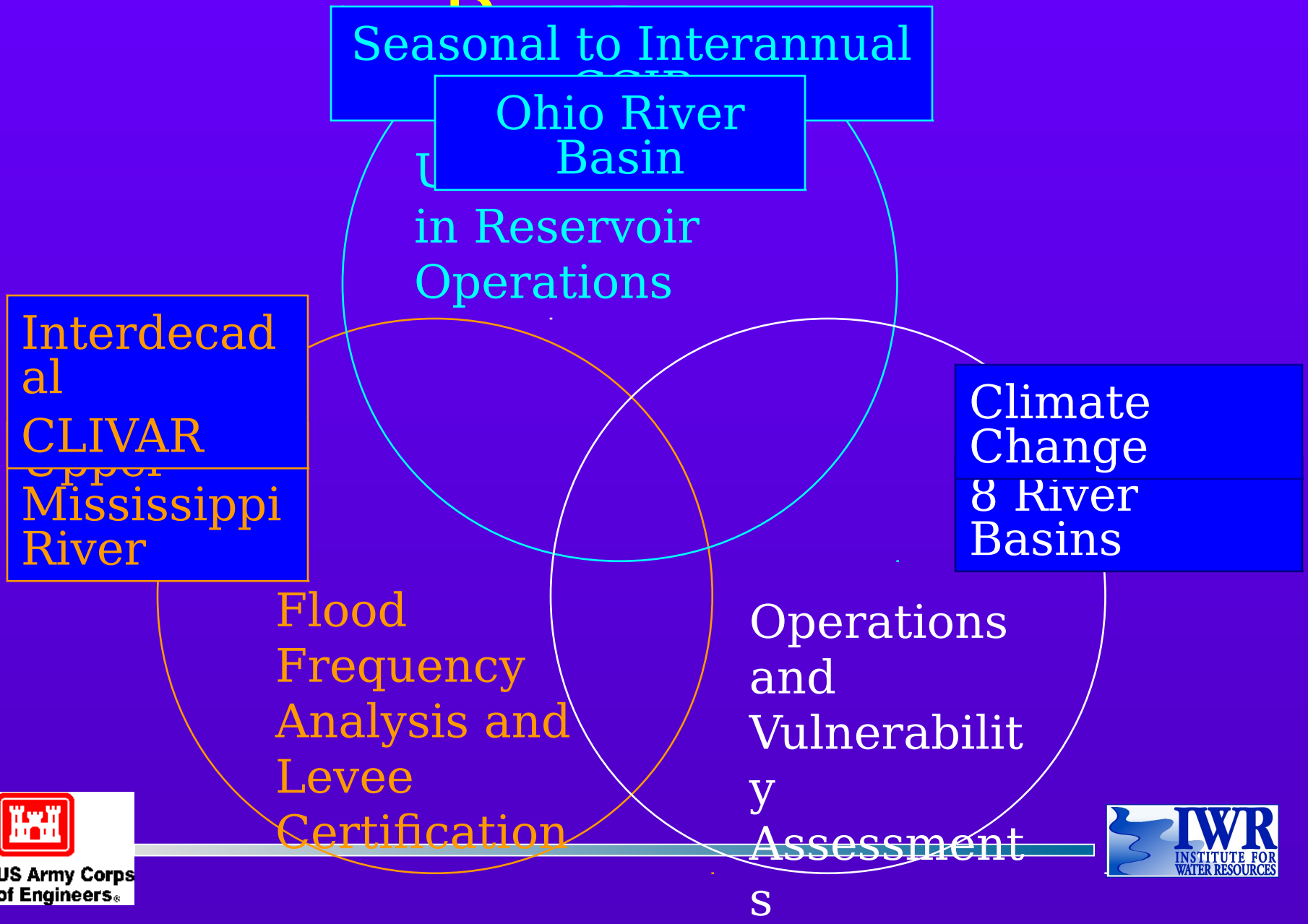
Hydrology

Economic Functions

Environmental
Functions



Time Scales and Water R



US Army Corps of Engineers

IWR INSTITUTE FOR WATER RESOURCES

Climate Change Analysis

- Intergov. Panel on Climate Change (I,II,III)
- National Climate Assessment (1998-2001)
- Climate Change Impacts on 8 river basins
- Upper Miss. R. Flood frequency Analysis
- Ohio R. Basin Climate Forecasting Model
- World Water Council Climate Forum

US Army Corps of Engineers

IWR INSTITUTE FOR WATER RESOURCES

Related Policy Analytics

- US Harbor Traffic Projections
- Corps Civil Works Capital Stock Update
- US Hydropower Capacity Potential
- US Harbor Maint. Trust Fund Analysis
- Envir. Investments Upper Miss Basin
- Emissions Impacts of Navigation

US Army Corps of Engineers

IWR INSTITUTE FOR WATER RESOURCES

Goal Objective⇒ Criteria	Sustainable Development				Reduce Vulnerability	
	Econ.	Envir.	Equity	SWB	Safety	Reliability
Mgmt. Measure	$ Costs & Benefit	W.Q. Habitat Diversity	Income Distribution	Relocate	Population at Risk	Frequency of Failure
MM_1						
…						
MM_i						
…						
MM_n						

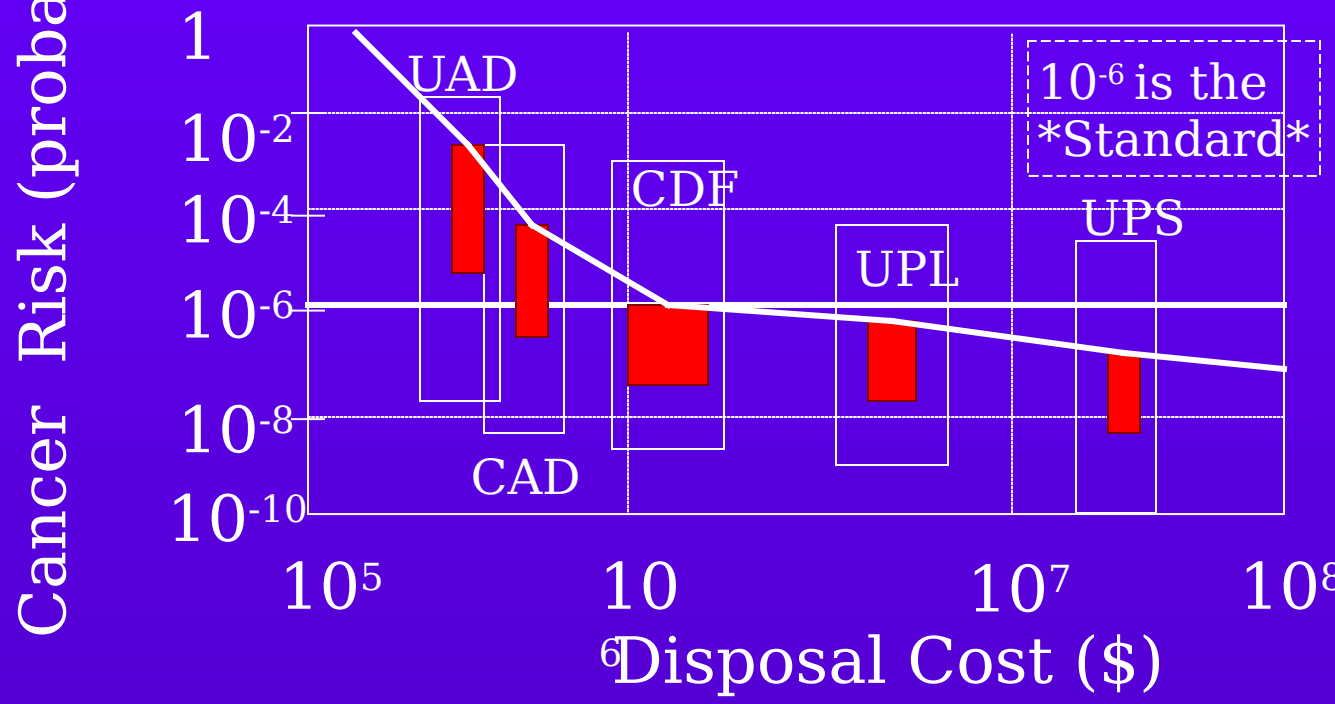
Management ⇒ (Adaptive) Measures

- Structural / infrastructure
- Legal / legislative
- Institutional / administrative
- Regulations (land use, zoning, standards)
- Education
- Financial incentives, subsi
- Taxes, tariffs, user fees (-)
- Research and development
- Market mechanisms
- Technology development

US Army Corps of Engineers®

IWR INSTITUTE FOR WATER RESOURCES

Level 4 Analysis



UAD – unconfined aquatic disposal
CAD – capped aquatic disposal
CDF – confined disposal facility
UPL – upland disposal
UPS – upland source

US Army Corps of Engineers

IWR INSTITUTE FOR WATER RESOURCES